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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,208	03/04/2002	David Frederick Jordan	17805	3487

7590 10/07/2003

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EXAMINER

CLINGER, JAMES C

ART UNIT PAPER NUMBER

2821

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/090,208

Applicant(s)

Jordan et al.

Examiner

Jim Clinger

Art Unit

2821



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Aug 8, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Mar 4, 2002 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 9-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gregory(3,312,976) in view of Lindenmeier(DE 197 40 254).

Claim 1, figures 1 and 3 disclose transmission line feeds(19 & 30), and a reflector(14) which is coupled to antenna elements(11 & 12) which operate in different frequency bands. Selecting the different frequency bands to be the PCS and AMPS frequency band would be an obvious use of the disclosed antenna since these are frequency bands which are well known in the art as disclosed in Lindenmeier(fig. 4).

Claims 2 and 10, metal is a PCB material and the radiating elements(11 & 12) are made from metal. The transmission line is also made from metal.

Claims 3-5, figure 3 of Lindenmeier discloses a PCB patch antenna as recited.

Claim 9, the recited reflectivity is obtained from the disclosed antenna and reflector geometry and materials.

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Claim 11, the slots disclosed in Gregory are close enough to be parasitically coupled.

Claims 12, 15 and 17, the dimensions of the antenna disclosed in Gregory can be scaled to the recited values for operation in a desired frequency band.

Claims 13-14, plug connectors are well known in the antenna art.

Claim 16, pigtailed are well known in the art and their use in a system as recited is an obvious modification of the disclosed and referenced system.

Claims 18-22, the recited operational characteristics are obtainable with the use of the above disclosed and referenced antenna.

Claims 23-25, the disclosed antenna elements can be used as recited.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the patch antenna elements disclosed in Lindenmeier with the antenna disclosed in Gregory for improved performance in the recited frequency bands.

3. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gregory in view of Wiesbeck(DE 100 34 547).

Claims 6-8, Gregory does not disclose the recited reflector positioning. Figure 1 of Wiesbeck discloses the recited reflector positioning for improved antenna performance.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the reflector positioning disclosed in Wiesbeck with the antenna disclosed in Gregory for improved antenna performance.

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***Response to Arguments***

4. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

***Correspondence***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jim Clinger whose phone number is (703) 305-0619.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 308-7722 or (703) 308-7724.

A handwritten signature in black ink, appearing to read "J. Clinger", is located at the bottom right of the page.